CLAIMS

1. A device for Multimedia authentication of a user (UE) accessing a Multimedia domain (IMS) through an access network (UMTS; WLAN; GPRS; CDMA 2000), the device for use in, or in co-operation with, a subscriber server (HSS; AAA) of the access network holding authentication data for the user and accessible to the Multimedia domain (IMS), the device **characterised by** comprising:

    - means for deciding that an implicit authentication between the user (UE) and the Multimedia domain (IMS) can take place, thus skipping the needs for an explicit authentication; and

    - means for instructing a serving entity (S-CSCF) in charge of authenticating the user (UE) in the Multimedia domain (IMS) that implicit authentication can take place.

2. The device of claim 1, wherein the means for deciding that an implicit authentication can take place includes means for determining the potential security of the signalling path to access the Multimedia domain through said access network.

3. The device of claim 1, wherein the means for instructing the serving entity that an implicit authentication can take place include means for indicating (Implicit Authentication) that the final decision is on the user's side (UE) which might force an explicit authentication.

4. The device of claim 1, wherein the means for instructing the serving entity that an implicit authentication can take place include means for indicating (Implicit Authentication by network) that this is a final decision

taken by the network and no explicit authentication can be carried out.

5. The device of claim 1, further including means (Implicit Authentication; Implicit Authentication by the network) for notifying the user's equipment that an implicit authentication of the user for accessing the Multimedia domain can by carried out by the network.

6. The device of claim 1, wherein the means for deciding that an implicit authentication between the user (UE) and the Multimedia domain (IMS) can take place includes means for receiving a proposal of implicit authentication (SSO proposal) originated from the user's equipment (UE).

7. The device of claim 3, further comprising means for receiving an indication (SSO enabled) originated from the user's equipment (UE) to confirm the acceptance of the implicit authentication proposed by the network.

8. The device of claim 7, further comprising means for indicating (Implicit Authentication user-confirmed) to the serving entity (S-CSCF) in charge of authenticating the user in the Multimedia domain (IMS) that the user has confirmed the implicit authentication.

9. The device of claim 8, further comprising means for providing additional authentication data to said serving entity (S-CSCF), said additional authentication data including at least one element selected from a group of elements comprising: authentication type; access information; and authentication timestamp.

10. A user's equipment (UE) enabled to get access to a Multimedia domain (IMS) through an access network (UMTS; WLAN; GPRS; CDMA 2000), and arranged to carry out a first explicit Authentication procedure with the access network and a second explicit authentication procedure with the

Multimedia domain (IMS), the user's equipment (UE) **characterised by** having means for processing at least one notification selected from a group of notifications including:

5   - a notification (Implicit Authentication; Implicit Authentication by the network) received from the Multimedia domain (IMS) indicating that an implicit authentication for the user can be carried out by the network; and

10   - a notification (SSO Proposal) proposed from the user's equipment (UE) towards the Multimedia domain (IMS) to carry out an implicit authentication between said user's equipment and Multimedia domain.

11. The user's equipment (UE) of claim 10, wherein the means
15   for processing a notification received from the Multimedia domain (IMS) includes means for receiving and processing an indication (Implicit Authentication) that the final decision is on the user's equipment (UE) which might force an explicit authentication.

20 12. The user's equipment (UE) of claim 11, further comprising means for sending towards the Multimedia domain (IMS) an indication (SSO enabled) to confirm the acceptance of the implicit authentication proposed by the network.

13. The user's equipment (UE) of claim 12, further comprising
25   means for providing additional authentication data towards the Multimedia domain (IMS), said additional authentication data including at least one element selected from a group of elements comprising: authentication type; access information; and
30   authentication timestamp.

14. The user's equipment (UE) of claim 10, wherein the means for processing a notification received from the

Multimedia domain (IMS) includes means for receiving and processing an indication (Implicit Authentication by the network) that the implicit authentication is a final decision taken by the network and no explicit authentication can be carried out.

15. A method for authenticating a user (UE) accessing a Multimedia domain (IMS) through an access network (UMTS; WLAN; GPRS; CDMA 2000), the method comprising:

- a step of authenticating the user in the access network (UMTS; WLAN; GPRS; CDMA 2000) where the user accesses through, the access network having a subscriber server (HSS; AAA) with authentication data for the user and accessible to the Multimedia domain (IMS); and

- a step of registering the user (UE) into the Multimedia domain (IMS);

the method **characterized by** comprising:

- a step of deciding that an implicit authentication between the user (UE) and the Multimedia domain (IMS) can take place, thus skipping the needs for an explicit authentication; and

- a step of instructing a serving entity (S-CSCF) in charge of authenticating the user (UE) in the Multimedia domain (IMS) that implicit authentication can take place.

16. The method of claim 15, further comprising a step of notifying from the Multimedia domain (IMS) (Implicit Authentication; Implicit Authentication by network) to the user's equipment (UE) that implicit authentication of the user for accessing the Multimedia domain can by carried out.

17. The method of claim 15, wherein the step of deciding that an implicit authentication can take place includes a step of determining the potential security of the signalling path to access the Multimedia domain through said access

5   network.

18. The method of claim 15, wherein the step of deciding that an implicit authentication can take place includes a step of proposing from the user's equipment (UE) towards the Multimedia domain (IMS) an implicit authentication to be

10   carried out between said user's equipment and Multimedia domain.

19. The method of claim 15, wherein the step of instructing the serving entity that an implicit authentication can take place include a step of indicating (Implicit

15   Authentication by the network) that this is a final decision taken by the network and no explicit authentication can be carried out.

20. The method of claim 15, wherein the step of instructing the serving entity that an implicit authentication can

20   take place includes a step of indicating (Implicit Authentication) that the final decision is on the user's equipment which might force an explicit authentication.

21. The method of claim 20, further comprising a step of confirming (SSO enabled) from the user's equipment (UE)

25   acceptance of an implicit authentication proposed by the network.

22. The method of claim 21, further comprising a step of indicating (Implicit Authentication user-confirmed) to the serving entity (S-CSCF) in charge of authenticating

30   the user (UE) in the Multimedia domain (IMS) that the user has confirmed the implicit authentication.

23. A serving entity (S-CSCF) in charge of authenticating a user (UE) in the Multimedia domain (IMS) when the user accesses thereto through an access network (UMTS; WLAN; GPRS; CDMA 2000) where said user had been previously authenticated, the serving entity (S-CSCF) **characterized by** comprising:

   - means for receiving and processing instructions (Implicit Authentication; Implicit Authentication by the network) originated from the device of claim 1 indicating that an implicit authentication can take place; and

   - means for notifying (Implicit Authentication; Implicit Authentication by the network) to a user's equipment (UE) that an implicit authentication of the user for accessing the Multimedia domain (IMS) can by carried out by the network.

24. The serving entity (S-CSCF) of claim 23, also comprising means for receiving an indication (SSO enabled) originated from the user's equipment (UE) of claim 12 to confirm acceptance of an implicit authentication proposed by the network.

25. The serving entity (S-CSCF) of claim 23, further comprising means for receiving an indication (Implicit Authentication user-confirmed) originated from the device of claim 8 indicating that the user has confirmed the implicit authentication.

26. The serving entity (S-CSCF) of claim 25, further comprising means for checking the matching of additional authentication data respectively received from the device of claim 9 and from the user's equipment of claim 13 in order to provide an extra security support.

27. The serving entity (S-CSCF) of claim 26, wherein said additional authentication data include at least one element selected from a group of elements comprising: authentication type; access information; and authentication timestamp.

28. The serving entity (S-CSCF) of claim 23, wherein the means for notifying the user (UE) that an implicit authentication can by carried out by the network includes means for indicating (Implicit Authentication by the network) the user (UE) that the implicit authentication is a final decision taken by the network and no explicit authentication can be carried out.

29. A Proxy entity (P-CSCF) intended to act as an entry point into the Multimedia domain (IMS) for users (UE) accessing thereto through an access (UMTS; WLAN; GPRS; CDMA 2000) network where the user had been previously authenticated, **characterized by** having means for processing at least one notification selected from a group of notifications including:

 - a notification (Implicit Authentication; Implicit authentication by the network) sent towards the user's equipment (UE) to indicate that an implicit authentication of the user for accessing the Multimedia domain (IMS) can by carried out by the network; and

 - a notification (SSO Proposal) received from the user's equipment (UE) to propose an implicit authentication towards the Multimedia domain (IMS) between said user's equipment and Multimedia domain.

30. The Proxy entity (P-CSCF) of claim 29 further comprising means for receiving an indication (SSO enabled) from the user's equipment (UE) accepting the implicit authentication proposed by the network.

31. The Proxy entity (P-CSCF) of claim 29 further comprising means for indicating (Implicit Authentication by the network) to the user (UE) that the implicit authentication is a final decision taken by the network and no explicit authentication can be carried out.

32. An interrogating entity (I-CSCF) querying a subscriber server (HSS; AAA-3GPP) in the Multimedia domain (IMS) about a user (UE) having accessed said Multimedia domain through an access network (WLAN; GPRS), the interrogating entity having means for receiving a registration request from the user, and means for acknowledging such registration towards the user, and **characterized by** comprising means for transmitting an indication (Implicit Authentication; Implicit authentication by the network) towards the user (UE) that an implicit authentication of the user for accessing the Multimedia domain (IMS) can by carried out.

33. The interrogating entity (I-CSCF) of claim 32 further comprising:

   - means for receiving an indication (SSO enabled; SSO proposal) originated from the user's equipment (UE) to enable an implicit authentication; and

   - means for transmitting such indication from the user's equipment towards at least one entity selected from a group of entities comprising the device of claim 1 and the serving entity (S-CSCF) of claim 23.

34. The interrogating entity (I-CSCF) of claim 32 further comprising means for transmitting towards the user (UE) an indication (Implicit Authentication by the network) that the implicit authentication is a final decision taken by the network and no explicit authentication can be carried out.